

REMARKS

Status of the Claims

Claims 19-40 are currently pending in the above referenced application. Claims 1-18 have been canceled. Claims 19-40 have been added. Support for new claims 19-40 is found in original claims 1, 5, 8 and 9-12. No new matter has been introduced by the above claim amendments.

Rejection under 35 USC 112, second paragraph

The Examiner rejects claims 6, 10 and 12 as indefinite for the preferred ranges language in the claims. Applicants have canceled the rejected claims. As such, the rejection should be withdrawn.

Rejection under 35 USC 102(b)

The Examiner rejects claims 1-4 and 6 as anticipated by Nilsson U.S. Patent 6,077,695. Applicants traverse the rejection and respectfully request the withdrawal thereof.

Applicants submit that the new claims are directed to oligosaccharides of Formula I where X is a monosaccharide selected from the group consisting of Glc, GlcNAc, Gal and GalNAc, optionally in reduced form, or X is oligosaccharides containing one or more monosaccharide units, where the monosaccharide 2 is β 1-3 or β 1-4 linked to saccharide X. Applicants submit that the

presently claimed invention is distinguished from the cited prior art and the rejection should be withdrawn.

The Examiner also rejects claims 7 and 13-17 as anticipated by Wong et al. U.S. Patent 6,319,695 (Wong '695). Applicants also traverse this rejection and respectfully request the withdrawal thereof.

Wong '695 discloses $\text{Gal}\beta 4(\text{Fuc}\alpha 3)\text{GlcNAc-2-propenyl}$. See column 35, scheme 17, compound 45. Wong '695 also discloses the synthesis of compound 45 from compound 41 ($\text{Gal}\beta 4\text{GlcNAc}\beta\text{Oallyl}$) by fucosyl transferase enzyme. During synthesis, transfer of Fuc residue to the GlcNAc residue occurs, but the presence of the Gal residue in the acceptor structure is needed for the reaction. However, one of ordinary skill in the art would know that the acceptor recognition of Wong '695 is not based just on the selectivity between reducing or non-reducing GlcNAc monosaccharides. GlcNAc is not alone a fucosylase acceptor, but instead reactivities of $\text{Gal}\beta 4/3\text{GlcNAc}$ sequences with fucosylases are regulated by their position in a N-acetyllactosamine chain. As such, Applicants submit that fucosylase reactivity with a different GlcNAc containing disaccharide, particularly an oligosaccharide without a terminal Gal residue, is not an obvious modification for one of ordinary skill in the art to make to arrive at the present invention.

Moreover, since the chitin-like acceptor structure of the present invention is not known from animals, the fact that the

structure can act as an acceptor for human fucosylases is very unexpected. The oligosaccharides of the present invention are formed by an unusual combination of mammalian enzymes with saccharide structures currently only known from completely different species, such as bacteria, fungi, crustacean or plants. The reactions disclosed in the present invention in a novel way to combine the biosynthesis routes of completely different organisms.

For the foregoing reasons, Applicants submit that the present invention is not anticipated by Wong '695 and the rejection should be withdrawn.

Information Disclosure Statement

Applicants respectfully request that the Examiner initial the PTO Form-1449 dated March 28, 2002 acknowledging that the references cited therein have been fully considered by the Examiner. Applicants request that the Examiner forward an initial copy of the PTO Form-1449 to the undersigned.

Conclusion

As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of three (3)

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months to January 15, 2004 in which to file a reply to the Office Action. The required fee of \$475.00 is enclosed herewith.

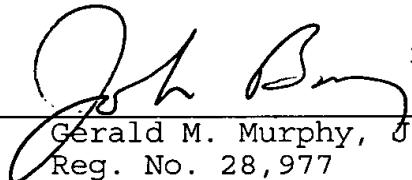
If the Examiner has any questions or comments, please contact Kecia J. Reynolds, Registration No. 47,021 at the offices of Birch, Stewart, Kolasch & Birch, LLP.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By



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